What is claimed is:

1.   A method of operating a communication device with a boot PROM, comprising:

        initializing the communication device from routines stored on the boot PROM;

        reading a device ID indicating a model and revision from the communication
            device;

        sending the device ID to a management device over a communications link;

        selecting a firmware at the management device;

        downloading the firmware to the communication device; and

        running the firmware on the communication device.

2.   The method of claim 1, further comprising:

        storing the downloaded firmware into a RAM memory.

3.   The method of claim 1, further comprising:

        storing the downloaded firmware into a non-volatile machine usable storage media.

4.   The method of claim 3, wherein the non-volatile machine usable storage media is

        selected from the group consisting of a Flash memory device, an electrically

        erasable programmable read only memory (EEPROM) device, and a one time

        programmable (OTP) device.

5.   The method of claim 3, wherein the boot PROM routines are stored on the non-
        volatile machine usable storage media.

6.   The method of claim 3, wherein the boot PROM routines and device ID are stored
        on the non-volatile machine usable storage media.

7.   The method of claim 1, further comprising:

        sending a version identifier of a stored firmware from a non-volatile machine
            usable storage media to the management device.

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8. The method of claim 1, wherein the device ID is read from a machine readable storage device.

9. The method of claim 8, wherein the device ID storage device is selected from the group consisting of a Flash memory device, a read only memory (ROM), an electrically erasable programmable read only memory (EEPROM) device, and a one time programmable (OTP) device.

10. The method of claim 1, wherein the boot PROM is selected from the group consisting of a Flash memory device, a read only memory (ROM), an electrically erasable programmable read only memory (EEPROM) device, and a one time programmable (OTP) device.

11. The method of claim 1, wherein the boot PROM and device ID are stored on a single machine readable storage medium.

12. The method of claim 1, wherein downloading firmware comprises downloading diagnostic firmware.

13. A method of operating a communications management device, comprising:
   initializing one or more associated communication devices from routines stored on a boot PROM of each of the one or more associated communication devices;
   receiving a device ID from each of one or more communication devices;
   selecting a software program associated with the device ID of each of the one or more communication devices; and
   downloading the software program associated with the device ID to each of the one or more communication devices.

14. The method of claim 13, wherein receiving a device ID from each of one or more communication devices further comprises receiving a device ID that uniquely

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identifies the communication device.

15. The method of claim 13, wherein receiving a device ID from each of one or more communication devices further comprises receiving a device ID that identifies the communication device model.

16. The method of claim 13, wherein receiving a device ID from each of one or more communication devices further comprises receiving a device ID that identifies the communication device model and revision.

17. The method of claim 13, wherein receiving a device ID from each of one or more communication devices further comprises receiving a device ID that uniquely identifies the software program for the communication device.

18. The method of claim 13, wherein receiving a device ID from each of one or more communication devices further comprises receiving a device ID that uniquely identifies one or more software programs for the communication device.

19. The method of claim 13, further comprising:
    updating a store of firmware at the communications management device.

20. A method of operating a communications rack chassis with a management card and at least one communication card, comprising:
    initializing the at least one communication card from routines stored on a boot PROM of the communication card;
    receiving a device ID from each of the at least one communications card;
    selecting a firmware program associated with the device ID of each of the at least one communication card; and
    downloading the firmware program associated with the device ID to each of the at least one communication card.

21. The method of claim 20, further comprising:

storing the downloaded firmware into a RAM memory of each of the at least one communication card.

22. The method of claim 20, further comprising:

storing the downloaded firmware into a non-volatile machine usable storage media of each of the at least one communication card.

23. The method of claim 20, further comprising:

sending a version identifier of a stored firmware from a non-volatile machine usable storage media of each of the at least one communication card to the management card.

24. The method of claim 20, wherein the boot PROM and device ID are stored on a single machine readable storage medium of each of the at least one communication card.

25. The method of claim 20, further comprising:

updating a repository of firmware stored on the management card.

26. The method of claim 25, wherein the repository of firmware is updated remotely across a communication link.

27. A method of operating a communications system, comprising:

initializing one or more communication devices from routines stored on a boot PROM of each of the one or more communication devices;

receiving a device ID from each of one or more communication devices at a management device;

selecting a software program associated with the device ID of each of the one or more communication devices; and

downloading the software program associated with the device ID to each of the one

or more communication devices.

28. The method of claim 27, further comprising:

storing the downloaded software program into a RAM memory of each of the one
or more communication devices.

29. The method of claim 27, further comprising:

storing the downloaded software program into a non-volatile machine usable
storage media of each of the one or more communication devices.

30. The method of claim 27, further comprising:

sending a version identifier of a stored software program from a non-volatile
machine usable storage media of each of the one or more communication
devices to the management device.

31. The method of claim 27, wherein the boot PROM and device ID are stored on a
single machine readable storage medium of each of the one or more communication
devices.

32. The method of claim 27, further comprising:

updating a repository of software program stored on the management device.

33. The method of claim 32, wherein the repository of software program is updated
remotely across a communication link of the communications system.

34. A method of operating an asymmetric digital subscriber line (ADSL)
communication device with a boot PROM, comprising:

initializing the ADSL communication device from routines stored on the boot
PROM;

reading a device ID indicating a model and revision from the ADSL
communication device;

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sending the device ID to a management device over a communications link;

selecting a firmware for the communication device at the management device;

downloading the firmware to the ADSL communication device; and

running the firmware on the ADSL communication device.

35.   The method of claim 34, further comprising:

storing the downloaded firmware into a RAM memory of the ADSL
    communication device.

36.   The method of claim 34, further comprising:

storing the downloaded firmware into a non-volatile machine usable storage media
    of the ADSL communication device.

37.   The method of claim 34, further comprising:

sending a version identifier of a stored firmware from a non-volatile machine
    usable storage media of the ADSL communication device to the
    management device.

38.   The method of claim 34, wherein the boot PROM and device ID are stored on a
    single machine readable storage medium of the ADSL communication device.

39.   The method of claim 34, wherein the device ID identifies a model and a revision of
    the ADSL communication device.

40.   The method of claim 34, wherein sending the device ID to a management device
    over a communications link further comprises sending the device ID and
    configuration information.

41.   A communication device, comprising:

a boot PROM;

a communications interface;

a device ID storage media; and

a processor coupled to the boot PROM, the device ID storage media, and the
communications interface, where the processor utilizes a device ID read from
the device ID storage media and routines from the boot PROM to select and
download a firmware program for the device through the communications
interface.

42.   The communication device of claim 41, further comprising:

a RAM memory coupled to the processor, where the processor stores the
downloaded firmware into the RAM memory.

43.   The communication device of claim 41, further comprising:

a non-volatile machine usable storage media coupled to the processor, where the
processor stores the downloaded firmware into the storing the downloaded
firmware the non-volatile machine usable storage media.

44.   The communication device of claim 43, wherein the non-volatile machine usable
storage media is selected from the group consisting of a Flash memory device, an
electrically erasable programmable read only memory (EEPROM) device, and a
one time programmable (OTP) device.

45.   The communication device of claim 41, wherein the device ID storage device is
permanently attached to the communication device.

46.   The communication device of claim 41, wherein the device ID storage device is
selected from the group consisting of a Flash memory device, a read only memory
(ROM), an electrically erasable programmable read only memory (EEPROM)
device, and a one time programmable (OTP) device.

47.   The communication device of claim 41, wherein the boot PROM is permanently
attached to the communication device.

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48.   The communication device of claim 41, wherein the boot PROM is selected from the group consisting of a Flash memory device, a read only memory (ROM), an electrically erasable programmable read only memory (EEPROM) device, and a one time programmable (OTP) device.

49.   The communication device of claim 41, wherein the boot PROM and device ID are stored on a single machine readable storage medium.

50.   The communication device of claim 41, wherein the downloaded firmware is a diagnostic firmware.

51.   An asymmetric digital subscriber line (ADSL) communication device, comprising:

a boot PROM;

a communications interface;

a device ID storage media; and

a processor coupled to the boot PROM, the device ID storage media, and the communications interface, where the processor utilizes a device ID read from the device ID storage media and routines from the boot PROM to select and download a firmware program for the device through the communications interface.

52.   The asymmetric digital subscriber line (ADSL) communication device of claim 51, further comprising:

a RAM memory coupled to the processor, where the processor stores the downloaded firmware into the RAM memory.

53.   The asymmetric digital subscriber line (ADSL) communication device of claim 51, further comprising:

a non-volatile machine usable storage media coupled to the processor, where the processor stores the downloaded firmware into the storing the downloaded

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firmware the non-volatile machine usable storage media.

54. The asymmetric digital subscriber line (ADSL) communication device of claim 51, wherein the device ID storage device is permanently attached to the communication device.

55. The asymmetric digital subscriber line (ADSL) communication device of claim 51, wherein the boot PROM is permanently attached to the communication device.

56. The asymmetric digital subscriber line (ADSL) communication device of claim 51, wherein the downloaded firmware is a diagnostic firmware.

57. A communications rack chassis, comprising:

a management card; and

at least one communications card, the at least one communications card comprising,

a boot PROM;

a device ID storage media; and

a processor coupled to the boot PROM and the device ID storage media, where the processor utilizes a device ID read from the device ID storage media and routines from the boot PROM to communicate with the management card and select and download a firmware program for the card.

58. The communications rack chassis of claim 57, wherein the at least one communications card further comprises:

a RAM memory coupled to the processor, where the processor stores the downloaded firmware into the RAM memory.

59. The communications rack chassis of claim 57, wherein the at least one communications card further comprises:

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a non-volatile machine usable storage media coupled to the processor, where the
processor stores the downloaded firmware into the storing the downloaded
firmware the non-volatile machine usable storage media.

60.   The communications rack chassis of claim 57, wherein the boot PROM and device
ID are stored on a single machine readable storage medium of each of the at least
one communication card.

61.   The communications rack chassis of claim 57, wherein the downloaded firmware is
a diagnostic firmware.

62.   The communications rack chassis of claim 57, wherein the communications rack
chassis is a diagnostics rack chassis and the downloaded firmware is a diagnostic
firmware.

63.   A network system, comprising:
a management device; and
at least one communication device, the at least one communication device
comprising,
a boot PROM;
a device ID storage media; and
a processor coupled to the boot PROM and the device ID storage media,
where the processor utilizes a device ID read from the device ID storage
media and routines from the boot PROM to communicate with the
management device and select and download a firmware program for
the device.

64.   The network system of claim 63, wherein the at least one communications device
further comprises:
a RAM memory coupled to the processor, where the processor stores the
downloaded firmware into the RAM memory.

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65. The network system of claim 63, wherein the at least one communications device further comprises:

a non-volatile machine usable storage media coupled to the processor, where the processor stores the downloaded firmware into the storing the downloaded firmware the non-volatile machine usable storage media.

66. The network system of claim 63, wherein the boot PROM and device ID are stored on a single machine readable storage medium of each of the at least one communication device.

67. The network system of claim 63, wherein the downloaded firmware is a diagnostic firmware.

68. The network system of claim 63, wherein the network system is a diagnostics rack chassis and the downloaded firmware is a diagnostic firmware.

69. A machine-usable medium having machine-readable instructions stored thereon for execution by a processor of a telecommunication device to perform a method comprising:

initializing the telecommunication device from routines stored on a boot PROM of the telecommunications device;

reading a device ID indicating a model and revision from the telecommunication device;

sending the device ID to a management device over a communications link;

selecting a firmware for the telecommunications device at the management device;

downloading the selected firmware to the telecommunication device; and

running the firmware on the telecommunication device.

70. The machine-usable medium of claim 69, further comprising:

storing the downloaded firmware into a RAM memory.

71. The machine-usable medium of claim 69, further comprising:

storing the downloaded firmware into a non-volatile machine usable storage media.

72. The machine-usable medium of claim 71, wherein the non-volatile machine usable storage media is selected from the group consisting of a Flash memory device, an electrically erasable programmable read only memory (EEPROM) device, and a one time programmable (OTP) device.

73. The machine-usable medium of claim 71, wherein the boot PROM routines are stored on the non-volatile machine usable storage media.

74. The machine-usable medium of claim 71, wherein the boot PROM routines and device ID are stored on the non-volatile machine usable storage media.

75. A machine-usable medium having machine-readable instructions stored thereon for execution by a processor of a telecommunications management device to perform a method comprising:

initializing one or more associated telecommunication devices from routines stored on a boot PROM;

receiving a device ID from each of one or more telecommunication devices;

selecting a software program associated with the device ID of each of one or more telecommunication devices; and

downloading the software program associated with the device ID to each of one or more telecommunication devices.

76. The machine-usable medium of claim 75, wherein the downloaded firmware is a diagnostic firmware.

77. The machine-usable medium of claim 75, further comprising:

updating a repository of firmware stored on the telecommunication management

device.

78. The machine-usable medium of claim 77, wherein the repository of firmware is updated remotely across a communication link.

79. The machine-usable medium of claim 75, further comprising:
storing the downloaded firmware into a RAM memory of each of the one or more telecommunication devices.

80. The machine-usable medium of claim 75, further comprising:
storing the downloaded firmware into a non-volatile machine usable storage media of each of the one or more telecommunication devices.

81. In a telecommunication device having a boot PROM, a communications interface, a device ID storage media, and a processor coupled to the boot PROM, the device ID storage media, and the communications interface, a method of operating the telecommunication device, comprising:
initializing the telecommunication device from routines stored on the boot PROM;
reading a device ID indicating a model and revision from the telecommunication device;
sending the device ID to a management device over a communications link;
selecting a firmware at the management device;
downloading the firmware to the telecommunication device; and
running the firmware on the telecommunication device.